

Serial No. 09/988,296
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

Docket No. MRE-0042

REMARKS/ARGUMENTS

Claims 16-31 are pending in this application. By this Amendment, the Title, Abstract, Specification, and claims 16-20 are amended, and claims 21-31 are added. The Examiner withdraws claims 1-15 from consideration. Accordingly, claims 1-15 are cancelled without prejudice or disclaimer. The Title, Abstract, and Specification are amended for clarification purposes only, and contain no new matter. Support for the claims can be found throughout the specification, including the original claims, and the drawings. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

I. RESTRICTION REQUIREMENT

Applicants maintain their traversal of the restriction/election requirement set forth in the Patent Office communication dated April 15, 2003. However, for the purpose of expediting prosecution of the application, Applicants have cancelled non-elected claims 1-15.

II. INFORMALITIES

The Office Action objects to the Abstract because the Abstract is not directed to the claimed invention. The substitute Abstract filed herewith is responsive to the Examiner's comments. Accordingly, it is respectfully requested that the objection to the Abstract be withdrawn.

The Office Action objects to the Title as being non-descriptive. The Title has been amended to recite "A Surface Mounting Method," as suggested by the Examiner. Accordingly, it is respectfully requested that the objection to the Title be withdrawn.

Serial No. 09/988,296
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

Docket No. MRE-0042

The Office Action objects to claims 16-19 due to various informalities. The amendments made to claims 16-19 are responsive to the Examiner's comments. Accordingly, it is respectfully requested that the objection to claims 16-19 be withdrawn.

III. REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH

The Office Action rejects claims 19-20 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

The amendments made to claims 19-20 are responsive to the Examiner's comments. Accordingly, it is respectfully submitted that claims 19-20 meet the requirements of 35 U.S.C. §112, second paragraph, and thus the rejection should be withdrawn.

IV. REJECTION UNDER 35 U.S.C. §102(b)

The Office Action rejects claims 16-20 under 35 U.S.C. §102(b) as being anticipated by Burt et al., U.S. Patent No. 5,812,693 (hereinafter "Burt"). This rejection is respectfully traversed.

Independent claim 16 recites transporting a printed circuit board loaded on a first multilayer transfer unit to a first conveyor under control of a controller, discharging the printed circuit board from the first conveyor to a second multilayer transfer unit under control of the controller, transporting the printed circuit board loaded on the second multilayer transfer unit to a second conveyor under control of the controller, and discharging the printed circuit board

Serial No. 09/988,296
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

Docket No. MRE-0042

from the second conveyor to the first multilayer transfer unit under control of the controller.

Burt neither discloses nor suggests such features.

That is, Burt discloses an integrated vision inspection and rework machine 40 for inspecting and reworking printed circuit boards 30 by comparing a digitized image of the components and their location on the printed circuit board 30 against a database of master artwork. Printed circuit boards 30 are fed under an image acquisition unit 48 by a three stage conveyor system 74, and then received on the other end by an output buffer conveyor section 80. Here, the printed circuit boards 30 are transferred to conveyor extensions 45 and routed either to a main manufacturing assembly line conveyor 43 or to a divert conveyor 49, based on the visual inspection conducted by the image acquisition unit 48. Burt is silent on the source of the printed circuit boards to be inspected by the image acquisition unit, and thus does not disclose or suggest a method wherein printed circuit boards are loaded on or discharged to multilayer transfer units, as claimed in independent claim 16.

Accordingly, it is respectfully submitted that independent claim 16 is not anticipated by Burt, and thus the rejection of independent claim 16 under 35 U.S.C. §102(b) over Burt should be withdrawn. Rejected dependent claims 17-18, as well as newly added claims 21-25, are allowable at least for the reasons discussed above with respect to independent claim 16, from which they ultimately depend, as well as for their added features.

Independent claim 19 recites, *inter alia*, alternately distributing printed circuit boards loaded on a first multilayer transfer unit to a first conveyor and a second conveyor, mounting

Serial No. 09/988,296
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

Docket No. MRE-0042

parts on each printed circuit board when the printed circuit boards are carried to a respective parts mounting area by the first conveyor and the second conveyor, and alternately discharging the printed circuit boards from the first conveyor and the second conveyor to a second multilayer transfer unit. Burt neither discloses nor suggests such features. As set forth above, Burt discloses an integrated vision inspection and rework machine for inspecting and reworking printed circuit boards by comparing a digitized image of the components and their location on the printed circuit board against a database of master artwork. Burt's device conducts its inspection and rework after parts have already been mounted on the printed circuit board, and does not disclose or suggest a method wherein parts are mounted on the printed circuit boards. Burt also fails to disclose moving printed circuit boards from or to any type of multilayer transfer unit.

Accordingly, it is respectfully submitted that independent claim 19 is not anticipated by Burt, and thus the rejection of independent claim 19 under 35 U.S.C. §102(b) over Burt should be withdrawn. Rejected dependent claim 20, as well as newly added claim 26, are allowable at least for the reasons discussed above with respect to independent claim 19, from which they depend, as well as for their added features.

V. NEW CLAIMS 27-31

New claims 27-31 are added to the application. It is respectfully submitted that new claims 27-31 also define over the applied references and meet the requirements of 35 U.S.C. §112.

Serial No. 09/988,296
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

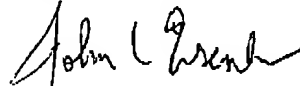
Docket No. MRE-0042

VI. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Carol L. Druzbeck, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



John C. Eisenhart
Registration No. 38,128
Carol L. Druzbeck
Registration No. 40,287

P.O. Box 221200
Chantilly, Virginia 20153-1200
703 502-9440 jce:clj/km/kmcjlg
Date: November 24, 2003

Please direct all correspondence to Customer Number 34610